breeding material, comprising: obtaining the maize plant, or its parts, of claim 2 as a source of said breeding material.

48. (New) A maize plant breeding program of claim 47, wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

49. (New) A maize plant, or parts thereof, produced by the method of claim 47.

REMARKS

Applicant thanks the Examiner for the thorough review of the application.

The Examiner objected the disclosure because it contained an embedded hyperlink and/or other form of browser-executable code. Applicant complies with Examiner's request to delete the embedded hyperlink at page 17, line 22 and page 20, line 19.

Claims 1, 2, 18, and 40 were objected to for the inclusion of a blank line where the ATCC accession number should appear. In response, Applicant has amended claims 1, 2, 18, and 40 by including the Accession No. "PTA-2660" corresponding to the inbred maize line NP2052.

Claims 1-2, 5, 7-14, 16-18, 31, 37-38 and 40-41 have been amended in accordance with Examiner's suggestions in order to overcome to the rejections. Claims 20-22, 26-28, 32-34 and 42 have been cancelled.

In section 6 of the January 29, 2002 Office Action, the Examiner rejects claims 1-11, 15-20, 29-32, 35, 36, 40, and 42 under 35 USC 102(e) as anticipated by or, in the alternative, under 35 USC 103(A) as obvious over Benson (U.S. Patent No. 6,087,566). Applicant has amended

claims 1, 2, 18, and 40 to include the ATCC accession number, thus overcoming the rejection of claims 1-11, 15-20, 32, 35, 36, and 40 as advised by the Examiner. Claim 42 has been canceled.

In section 7, the Examiner rejects claims 1-42 under 35 USC 103(a) as being unpatentable over Benson and in view of Plaisted et al. (US Pat. No. 5,990,395). Applicant respectfully disagrees with this rejection. Applicant first addresses the Examiner's arguments regarding the Benson reference set forth in section 6. First, the Benson reference describes a hybrid maize variety 34F40. In significant contrast, Applicant's claimed (and deposited) NP2052 is an **inbred** maize line. By definition, 34F40 is substantially heterozygous at most loci, whereas the NP2052 is homozygous. Thus, it is impossible for the two respective lines to be the same or even similar. On this basis alone, Applicant respectfully submits that the '566 patent does not anticipate or make obvious inbred maize line NP2052, alone or in combination with the Plaisted reference describing the inbred maize line W1498A.

The Examiner states that the claimed plant and plant parts of the claimed maize inbred line NP2052 having been deposited under ATCC Accession No. PTA-2660 appear to be the same "as the prior art maize plant 34F40 and its parts, given that, for example, 34F40 has early pollen shed and a relative maturity of approximately 109 days, which is approximately 85-107 days." Applicant respectfully submits that 109 days is not approximately the same as 85-107 days. More importantly, however, is that the Examiner fails to take into account the numerous other differences between the inbred maize line NP2052 and the hybrid maize variety 34F40 that are clearly described in the Benson reference and the subject patent application. For example, comparing the Variety Description Information Tables of each respective specification, the NP2052 patent has a plant height (to tassel tip) of 180.3 cm, whereas the plant height of 34F40 is 272.5 cm; the ear height of NP2052 (from to base of top ear node) is 45.1 cm, whereas the ear height of 34F20 is 132.5 cm. These differences are substantial. Other clear differences are listed in the following chart:

	NP2052	34F20
Ear length (cm)	14	18
Ear diameter at midpoint	40.1	49
Ear weigh (gm)	81.2	215gm
Yield kg./ha at 12-13% moisture	5067.0	10,566

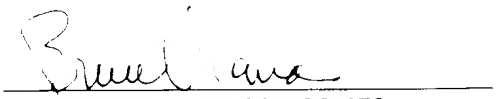
Many more patentable differences are illustrated by the data contained in the respective tables.

Furthermore, Applicant submits that one skilled in the art cannot simply combine the traits of the Benson reference (a hybrid line) with the inbred maize line disclosed in the Plaisted reference and obtain the inbred maize line NP2052. It would be virtually impossible using the breeding techniques currently known to those skilled in the art. Thus, on the basis of the clear differences between the hybrid and inbred lines described in the cited references and the subject maize inbred line NP2052, and the complete inability of one skilled in the art to combine the hybrid and inbred lines disclosed in these references to obtain the claimed inbred line NP2052, Applicant respectfully submits that maize hybrid line 34F20, alone or in combination with the line W1498A, does not anticipate or make obvious the claimed inbred line NP2052. Applicant respectfully submits, in view of the above remarks, that the rejections set forth in section 7 are overcome.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version With Markings To Show Changes Made."**

In view of the above amendments and remarks, it is submitted that the application is ready for allowance. Early notice to this effect is solicited. If any additional information is needed, the Examiner is invited to call the undersigned attorney at (919) 541-8614.

Respectfully submitted,



Bruce Vrana, Reg. No. 38,672
Attorney for Applicant
Phone: (919) 541-8614

Syngenta Biotechnology, Inc.
P.O. Box 12257
Research Triangle Park, NC 27709-2257

Date: May 6, 2002

Version With Markings To Show Changes Made

In the specification:

The second paragraph on page 17 has been amended as follows:

The laboratory-based techniques described above, in particular RFLP and SSR, are routinely used in such backcrosses to identify the progenies having the highest degree of genetic identity with the recurrent parent. This permits to accelerate the production of inbred maize lines having at least 90%, preferably at least 95%, more preferably at least 99% genetic identity with the recurrent parent, yet more preferably genetically identical to the recurrent parent, and further comprising the trait(s) introgressed from the donor patent. Such determination of genetic identity is based on molecular markers used in the laboratory-based techniques described above. Such molecular markers are for example those known in the art and described in Boppenmaier, et al., "Comparisons among strains of inbreds for RFLPs", Maize Genetics Cooperative Newsletter (1991) 65, pg. 90, or those available from the University of Missouri database and the Brookhaven laboratory database ~~(see http://www.agron.missouri.edu)~~. The last backcross generation is then selfed to give pure breeding progeny for the gene(s) being transferred. The resulting plants have essentially all of the morphological and physiological characteristics of inbred maize line NP2052, in addition to the single gene trait(s) transferred to the inbred. Preferably, the resulting plants have all of the morphological and physiological characteristics of inbred maize line NP2052, in addition to the single gene trait(s) transferred to the inbred. The exact backcrossing protocol will depend on the trait being altered to determine an appropriate testing protocol. Although backcrossing methods are simplified when the trait being transferred is a dominant allele, a recessive allele may also be transferred. In this instance it may be necessary to introduce a test of the progeny to determine if the desired trait has been successfully transferred.

The third paragraph on page 20 has been amended as follows:

Specific transgenic events introgressed into maize inbred line NP2052 ~~are~~ can be obtained through the list of Petitions of Nonregulated Status Granted by APHIS as of 10-12-2000 ~~found at http://www.aphis.usda.gov/bbep/bp/not_reg.html~~. For example, introgressed from glyphosate tolerant event GA21 (9709901p), glyphosate tolerant/Lepidopteran insect resistant event MON 802 (9631701p), Lepidopteran insect resistant event DBT418 (9629101p), male sterile event MS3 (9522801p), Lepidopteran insect resistant event Bt11 (9519501p), phosphinothricin tolerant event B16 (9514501p), Lepidopteran insect resistant event MON 80100 (9509301p), phosphinothricin tolerant events T14, T25 (9435701p), Lepidopteran insect resistant event 176 (9431901p).

The first paragraph on page 25 has been amended as follows:

Applicants have made a deposit of at least 2500 seeds of Inbred Maize Line NP2052 with the American Type Culture Collection (ATCC), Manassas, Virginia, 20110-2209 U.S.A., ATCC Deposit No: ~~_____~~PTA-2660. This deposit of the Inbred Maize Line NP2052 will be maintained in the ATCC depository, which is a public depository, for a period of 30 years, or 5 years after the most recent request, or for the effective life of the patent, whichever is longer, and will be replaced if it becomes nonviable during that period. Additionally, Applicants have satisfied all the requirements of 37 C.F.R. §§1.801-1.809, including providing an indication of the viability of the sample. Applicants impose no restrictions on the availability of the deposited material from the ATCC; however, Applicants have no authority to waive any restrictions imposed by law on the transfer of biological material or its transportation in commerce. Applicants do not waive any infringement of its rights granted under this patent or under the Plant Variety Protection Act (7 USC 2321 et seq.).

In the claims:

Claims 20-22, 26-28, 32-34 and 42 have been cancelled.

Claims 1-2, 5, 7-14, 16-18, 31, 37-38 and 40-41 have been amended as follows:

1. (Amended) Seed of maize inbred line NP2052 having been deposited under ATCC Accession No:——PTA-2660.

2. (Amended) A maize plant, or parts thereof, of inbred line NP2052, seed of said line having been deposited under ATCC Accession No:——PTA-2660.

5. (Amended) An inbred maize plant, or parts thereof, having all the physiological and morphological characteristics of the ~~a~~ plant according to claim 2.

7. (Amended) The ~~A~~ maize plant, or parts thereof, according to claim 2, further comprising one or more single gene transferred traits.

8. (Amended) The ~~A~~ maize plant, or parts thereof, according to claim 7, wherein the plant or parts thereof have been transformed so that its genetic material contains one or more transgenes operably linked to one or more regulatory elements.

9. (Amended) The ~~A~~ maize plant according to claim 7, wherein said single gene transferred trait comprises a gene conferring upon said maize plant tolerance to a herbicide.

10. (Amended) The ~~A~~ maize plant according to claim 9, wherein said herbicide is glyphosate, gluphosinate, a sulfonylurea herbicide, ~~or an~~ a imidazolinone ~~herbicide,~~ a hydroxyphenylpyruvate dioxygenase inhibitor or a protoporphyrinogen oxidase inhibitor.

11. (Amended) The ~~A~~ maize plant according to claim 7, wherein said single gene transferred trait comprises a gene conferring upon said maize plant insect resistance, disease resistance or virus resistance.

12. (Amended) The ~~A~~ maize plant according to claim 11, wherein said gene conferring upon said maize plant insect resistance is a *Bacillus thuringiensis* Cry1Ab gene.

13. (Amended) The~~A~~ maize plant according to claim 12, further comprising a *bar* gene.

14. (Amended) The~~A~~ maize plant according to claim 12, wherein said Cry1Ab gene is introgressed into said maize plant from a maize line comprising a Bt-11 event or a 176 event.

16. (Amended) The~~A~~ tissue culture of regenerable cells of a maize plant according to claim 2, wherein the tissue regenerates plants capable of expressing all the morphological and physiological characteristics of the plant~~plants~~ according to claim 2.

17. (Amended) The~~A~~ tissue culture according to claim 16, ~~the regenerable cells being selected from the group~~ wherein the regenerable cells are selected from a) the group of plant parts consisting of embryos, meristems, pollen, leaves, anthers, roots, root tips, silk, flowers, kernels, ears, cobs, husks and stalks, or b)~~eing~~ protoplasts or callus derived from one of said plant parts~~therefrom~~.

18. (Amended) The~~A~~ maize plant regenerated from the tissue culture of claim 16, capable of expressing all the morphological and physiological characteristics of inbred line NP2052, seed of said inbred line having been deposited under ATCC Accession No: ~~_____~~PTA-2660.

31. (Amended) A method for producing maize seed comprising crossing a first parent maize plant with a second parent maize plant and harvesting the resultant first generation maize seed, wherein said first or second parent maize plant is the ~~inbred~~ maize plant of claim 7.

37. (Amended) A method comprising:

(a) planting a collection of seed comprising seed of a hybrid, one of whose parents is a plant according to claim 2, or a maize plant having all the physiological and morphological characteristics of a ~~plant according to claim 2~~maize plant of line NP2052, said collection also comprising seed of said inbred line;

(b) growing plants from said collection of seed;

(c) identifying said inbred plants;

(d) selecting said inbred plant; and

(e) controlling pollination in a manner which preserves the homozygosity of said inbred plant.

38. (Amended) A method according to claim 37, wherein said maize plant having the physiological and morphological characteristics of a plant according to claim 2 ~~one parent is a plant of inbred maize line NP2052~~, further comprising a single gene transferred trait.

40. (Amended) A method comprising introgressing a single gene trait into inbred maize line NP2052, seed of said line having been deposited under ATCC Accession No: ——— PTA-2660, using one or more markers for marker assisted selection among maize lines to be used in a maize breeding program, the markers being associated with a single gene trait, wherein the resulting maize line is inbred maize line NP2052 further comprising said single gene transferred trait.

41. (Amended) The~~A~~ method according to claim 40, wherein said a single gene trait comprises a Cry1Ab gene.

The following claims have been added:

43. (New) The maize plant, or parts thereof, of claim 5, wherein the plants or parts thereof have been transformed so that its genetic material contains one or more transgenes operably linked to one or more regulatory elements.

44. (New) A method for producing a maize plant that contains in its genetic material one or more transgenes, comprising crossing the maize plant of claim 43 with either a second plant of another maize line, or a non-transformed maize plant of the line NP2052, so that the genetic material of the progeny that result from the cross contains the transgene(s) operably linked to a regulatory element.

45. (New) The maize plant, or parts thereof, of claim 8, wherein the plants or parts thereof have been transformed so that its genetic material contains one or more transgenes operably linked to one or more regulatory elements.

46. (New) A method for producing a maize plant that contains in its genetic material one or more transgenes, comprising crossing the maize plant of claim 45 with either a second plant of another maize line, or a non-transformed maize plant of the line NP2052, so that the genetic material of the progeny that result from the cross contains the transgene(s) operably linked to a regulatory element.

47. (New) A method for developing a maize plant in a maize plant breeding program using plant breeding techniques, which include employing a maize plant, or its parts, as a source of plant breeding material, comprising: obtaining the maize plant, or its parts, of claim 2 as a source of said breeding material.

48. (New) A maize plant breeding program of claim 47, wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

49. (New) A maize plant, or parts thereof, produced by the method of claim 47.